



## AESTHETIC IMPACT ASSESSMENT OF THE RESTORED HERITAGE

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### ABSTRACT

Kurkut mosque is one of the important historical buildings in Antalya Old Town, Kaleiçi. It represents a special landmark for its cultural and architectural identity. In 1896, a great fire destroyed the mosque, including the wooden 'külâh' (spire) of its minaret. However, the lower parts of the minaret remained intact. Afterward, the mosque was called the 'Kesik Minare' Camii' (Cut Minaret Mosque). The Cut Minaret special form remained the identity of the old town for many decades. In 2017, a restoration project started to be prepared for the mosque and its minaret. Visual Impact Assessment is crucial in this regard in addition to Public Preference Analysis. This is to understand the restoration projects on public acceptance. This research used Aesthetic Impact Assessment (AIA) to assess public appreciation of the aesthetic quality of the newly restored minaret of the Cut Minaret Mosque. To achieve this goal, a set of aesthetic principles was developed. The aim was to provide insights into the cultural values of architectural conservation, restoration, and their role in shaping the identity of a continuously changing society. It has been found that the aesthetics of the minaret after restoration got around average public appreciation. It directs the attention of culture, religious authorities, and community organizations to give greater consideration to public involvement and participation in such projects.

### KEYWORDS:

Antalya; Kaleiçi; restoration; aesthetics; assessment

### INTRODUCTION

#### UNDERSTANDING THE MINARET IN MOSQUE ARCHITECTURE

For centuries, minarets have been continuing to function as visual landmarks in addition to being strong cultural and religious symbols of Moslem communities. It is in addition to being a reflection of the political and economic power of the elite and governing bodies in Moslem countries [1]. They became a common element of the urban scape of any Muslim city and some non-Moslem cities around the world as well [2]. With the development of electricity and technology, loudspeakers have been placed at the Şerefe. Because of the technology, muazzen calls *azan* from the mosque's prayer hall. More recently, in many cities in Turkey and other Moslem countries, *azan* is called from a central mosque connected through a Wi-Fi system to all mosques of the city, figure 1.

Minarets have different styles with great differences worldwide in terms of materials, height, and elements. It is beyond the scope of this research to give a complete and detailed account of the architecture of the minaret and its elements but rather a brief review to help understand the aesthetics of the Cut Minaret under consideration. In terms of materials, minarets have been built of mud bricks, bricks, stone,

and wood. All these materials can be found in the same country. According to environmental, technological, and cultural factors, certain materials are specific to certain areas. Mud and mud-brick construction are common in hot-dry regions like the African Sahara. Stone construction is common in rocky and mountainous regions of Syria and Anatolia, figure 2 [3].

Minarets can be found at many heights, from a few meters to several tens of meters, figure 3 and figure 4. There is no special rule for the height of the minaret. Usually, the available building technology and the size of the mosque play an important role in determining the height of the minaret.

#### ELEMENTS OF THE MINARET

Culture Minarets developed through history by preserving certain elements despite the differences in geographical locations, technological capabilities, and style [4]. So far, the minaret under consideration is Turkish. Thus, the general model of the elements used in this study is the Turkish minaret. These elements include from bottom-up: the "temel" (footing), "kaide" (pulpt or base), "küp" (transitional form), "gövde" (body or shaft), "Şerefe" (balcony or gallery), "petek" (neck), "külâh" (spire), and "alem" (finial),

figure 5, [5], [6]. It is not intended to go through all the details and variations of these elements through Turkey or other parts of the world. A brief account of these elements is presented below.



Figure 1. Karakuş Mosque, Antalya, Turkey, with A Central Azan Antenna and Loudspeakers on The Minaret (Source: Author)



Figure 2. Stone construction of Grand Omari Mosque, Gaza, Palestine (Source: Iwan Center for Heritage Architecture, Islamic University Gaza, Palestine)

#### THE FOOTING, BASE, TRANSITIONAL FORM, AND SHAFT

Minarets used to have square, cylindrical or multi-sided shafts. Although all of them can be found in the same country, special forms are specific to certain regions. Cylindrical forms are mainly dominant in Turkish and Ottoman minarets. Square forms spread in North African countries and Arabian Gulf countries, figure 6. Spiral forms appeared in rare examples, such as the Malwiya minaret of the Samerra Mosque in Iraq [7]. Octagonal and hexagonal forms appeared mainly in Egypt and Syria, in figures 2 and 3. The minaret can have a fluted shaft like that of the Yevli minaret of Sultan Alaaddin Keykubat mosque in Antalya, figure 4. The shaft usually rests on a base that also has different forms. The square base is common for square shafts. For cylindrical, hexagonal, or octagonal shafts, the base is usually a square with a transitional element that transforms into the upper form of the shaft, figure 4. The shaft sometimes is one piece ending with the top

part that is usually separated from the shaft with a gallery, figure 7, [1]. In other examples, the shaft is divided into two or three parts decreasing in diameter and separated by galleries, figure 8. In other examples, the square base can be big and high to support the huge volume of the shaft, figure 9. In other words, it extends with the square shaft before it transforms into other parts of octagonal and cylindrical forms on top of it, figure 10. The base and the shaft of the minaret can be directly connected to the mass of the mosque, figure 2. It can be separated from its mass and structure, figure 4.

#### THE GALLERY

The gallery is the space from where the *muazzin* used to call for prayer. In some examples, it is a recess at the end of the shaft surrounding the top of the minaret, figure 11. In other examples, a balcony-like structure encircles the shaft at its end or before. Some minarets are built with one gallery, figure 7, and others with two galleries or more, figure 8. Projected galleries are usually built with *-muqarnas-* (stalactite ornaments), giving a special ornamented decoration (figure 12).



Figure 3. The short minaret of Ibn Marwan Mosque, Gaza, Palestine (Source: Iwan Center for Heritage Architecture, Islamic University Gaza, Palestine)



Figure 4. The long-fluted minaret, Yevli minaret of Sultan Alaaddin Keykubat mosque, Antalya, Turkey (Source: Author)

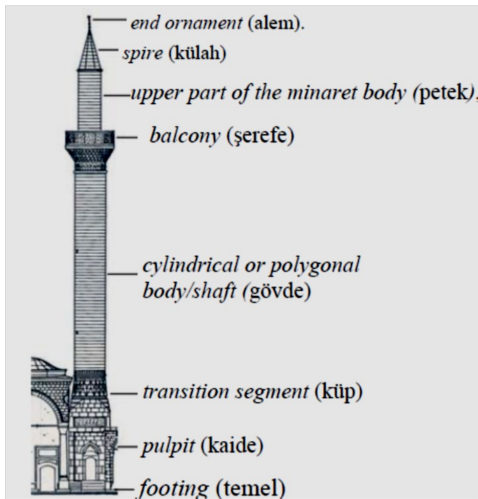


Figure 5. The Main Elements of the Minaret [5]



Figure 8. Long Minaret with Three Galleries, Süleymaniye Mosque, Istanbul, Turkey (Source: Author)



Figure 6. The Square Shaft of Yateem mosque, Manama, Bahrain (Source: Author)



Figure 9. The Minaret at Alharam Mosque, Makkah, Saudi Arabia (Source: Author)



Figure 7. The Minaret with One Gallery, Tekeli Mehmet Paşa Mosque, Antalya, Turkey (Source: Author)



Figure 10. The Minaret at Annabawi Mosque, Medina, Saudi Arabia (Source: Author)



Figure 11. Gallery at The End of The Shaft, Sayed Hashim Mosque, Gaza, Palestine (Source: Iwan Center for Heritage Architecture, Islamic University Gaza, Palestine)



Figure 12. Decorated Galleries, Eyüp Sultan Mosque, Istanbul, Turkey (Source: Author)

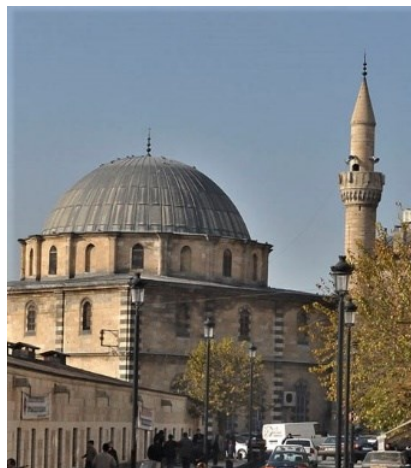


Figure 13. Upperparts of the Minaret of Alaüddevlle Mosque, Gaziantep, Turkey (Source: Author)

#### THE TOP OF THE MINARET

The top of the minaret is the last upper part above the last gallery. It is usually composed of 'petek' (neck), 'küllah' (spire), and 'alem' (finial), figure 5. The spire is an extension of the shaft with the same materials and details but usually, it is thinner. In the Turkish minaret, it is solid with only a door to the last

gallery. Sometimes it has very few tiny openings. In other examples, it is a small rotunda of a few arches supporting the top headgear and having a height allowing the exit of the *muazzen* to the gallery. The circular arcade is topped by a drum that holds the headgear, which is a small stone dome over a smaller ring of arches. It is similar to the lantern of the church dome in Christian architecture, figure 6. This form is called 'mabkhara' (censer) in Arab countries. In the Turkish minaret, the solid *petek* is topped by the *küllah*. It is a sharp wooden cone covered with metal, usually lead cladding. In certain examples, *küllah* can be built of stone, figure 13. The last part is *alem* which is usually composed of 1 to 3 metal spheres topped by a crescent, figure 13.

This study aims to provide insights into the cultural values of architectural conservation and restoration and their role in shaping the identity of a continuously changing society.

#### METHODS

This research used Aesthetic Impact Assessment (AIA) to assess public appreciation of the aesthetic quality of the newly restored minaret of the Cut Minaret Mosque. A set of aesthetic principles was developed for this purpose.

#### RESULT AND DISCUSSION

##### KURKUT MOSQUE AND ITS MINARET

Kaleiçi is the beautiful old heart of Antalya, the coastal Mediterranean city in the south of Turkey. The Cut Minaret Mosque has an important central location in Kaleiçi. It is close to several important landmarks such as Hadrian gate, Karaalioğlu Park, Cumhuriyet square, and Marina. The building was constructed as a church during the rule of the Byzantine Emperor Zeno at the end of the 5th century AD. The church was named "Panaghia Church". It had a basilica plan that went through several changes and renovations until the end of the 15th century AD. The abandoned damaged building was converted to a mosque in 1502 by Prince Kurkut, son of Sultan Bayezid II. The mosque thence was called 'Korkut Camii'. However, a big fire caught the mosque in 1896 and destroyed large parts of it, including its dome and the wooden *Külah* at the top of the minaret, figure 14 [8]. Since then, the mosque was abandoned and started to be called 'Kesik Minare Camii' or Cut Minaret Mosque. However, the remains of the mosque retained parts of its plan, figure 15, which continued to be preserved until the start of the recent restoration work in 2019. This year, the Antalya Regional Directorate of Endowments contracts the Turkish company "Asir Proje" to conduct the mosque's restoration studies, including the repair work for the minaret.



Figure 14. The Cut Minaret Mosque in 2017 (Source: Author)



Figure 15. The Plan of the Cut Minaret Mosque which is Showing the Location of the Minaret (Source: Asir Proje)

#### ARCHITECTURE OF THE CUT MINARET

The minaret is located on the right side of the northern entrance, figure 16. It is directly connected to the mass of the entrance, as shown in the plan of the mosque, figure 15. The base is square in plan. It rises 630 cm, a little above the roof of the mosque entrance. Then, the first part of the shaft above the base rises 255 cm in octagonal form. It is noticeable that the transformative triangular bevels or trihedral transform the corners of the square into the octagonal shaft are missing [9], [10]. Instead, the octagonal shaft transforms into a cylindrical form using eight isosceles trapezoids that transform the octagon into a Hexadecagon. It is a unique geometrical, structural, and construction technique developed by Turkish architects in Anatolia, figure 17. All these transformative geometries are built with bricks to form a resting foot strengthening the upper part of the minaret and adding to its aesthetics. The height of the transformative part is 182 cm. The circular stone part starts with the special portion with a slight outward indentation and ends with a stone band. The height of this part is 90 cm. The circular stone shaft then rises 420 cm up to another stone band of 10 cm in height. After 25 cm, the special form of *şerefe* rises 105 cm up. It projects 65 cm outwards around the shaft.

The muqarnas of the *şerefe* have their special style. It is a corbel-like structure of beveled triangular prisms which makes a unique and beautiful geometry, Figure 18. Unfortunately, the parapet of the *şerefe* was destroyed in the fire. Besides, *petek* rises 854 cm above

the *şerefe*. The restoration project added the parapet to the *şerefe*. It is made of rectangular white marble panels with white marble frames. Then, *kūlah* with the same height as the *petek* was afterward added. Besides, the metal spheres and crescent *alem* form the last beautiful sacred part of the minaret, Figure 19. The overall length of the minaret from the street level is around 25 meters.

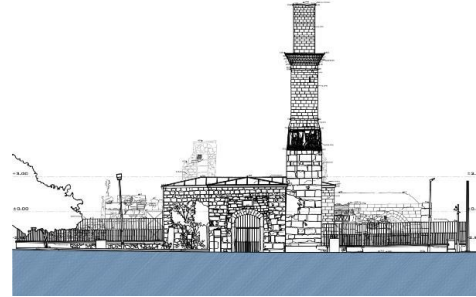


Figure 16. The North Elevation of Cut Minaret (Source: Asir Proje)



Figure 17. The Bricks Transformative Part of the Minaret, Cut Minaret Mosque after Restoration (Source: Author)



Figure 18. The Cut Minaret Mosque after restoration (Source: Author)

#### AESTHETIC ASSESSMENT

Aesthetics in visual arts is about the qualities of the visual design of these objects that make them look beautiful and give the viewer satisfaction and pleasure. Not only aesthetics is important in pure visual artworks, but it is much more important in architecture. The aesthetics of pure art objects can be experienced for some time but architecture creates spatial artworks. The aesthetic of which is experienced for the life of a whole community. It is why there is always a need to consider elements and principles of aesthetic evaluation and assessment in the built environment to add the dimension of pleasurable

satisfaction to the functions of human spaces [11]. It can be achieved by the good articulation of the visual elements and their variables which represent the form components of architecture and the built environment. In other words, such an articulation or visual design is how buildings and spaces can be seen as beautiful.

#### **AESTHETIC ASSESSMENT PRINCIPLES**

It has been agreed upon through the historical development of architecture that certain visual design principles need to be followed to create such satisfactorily pleasurable beauty in buildings [12]. These visual design or beauty design principles have comprised the tools learned and used by architects for centuries. They are still and will continue to be the cornerstone of architecture education. Uzunoglu (2012) argues that architecture's ten aesthetic principles are important to be included in architectural education [13]; unity, focal point, balance, contrast, rhythm, proportion, scale, hierarchy, emphasis, and variety.

At the same time, Vinchu et al. 2017 and Stankovic et al. 2018 provided another two sets of aesthetic principles responsible for the beauty of architectural creations, table 1 [14], [12]. The latter two sets have principles in common with Uzunoglu (2012), like unity, balance, contrast, rhythm, proportion, hierarchy, and emphasis [13]. The three sets are grouped under group (I) of "aesthetic principles in architecture".

#### **AESTHETIC ASSESSMENT PRINCIPLES IN ISLAMIC ARCHITECTURE**

Moving to the field of Islamic architecture shows that the quest for aesthetics is not different than its general framework. It is also about the satisfaction and pleasure of experiencing beauty in the design of buildings. Foroozani (1991) introduces 15 principles of aesthetics in Islamic architecture [15]. They have nine principles in common with the group (I); Centrality, repetition, equilibrium, contrast, rhythm, proportion, scale, symmetry, and variety. Abdulmir 2010 went more specifically to discuss the aesthetic principles of the minaret itself [16]. She listed 12 principles, seven in common with Foroozani (1991) and group (1), table 1 [15]. She added shade and light, control, texture, and harmony not shared by the other sets. It is worth mentioning that texture is usually considered an element of architectural form and not a principle of aesthetics. The list of all the principles in all the five sets counts 27, which is quite a larger number to be used to assess public appreciation of the aesthetic of the restored Cut Minaret. A shorter list has been prepared from the principles shared at least by one set from group 1 and one set from group 2. This list includes ten principles that comprise the Aesthetics Visual Indicators that would be used to assess public appreciation of the restored Cut Minaret.

#### **PUBLIC APPRECIATION OF THE RESTORATION OF THE RESTORED MINARET IN THE CUT MINARET MOSQUE**

On 24th July 2019, Antalya Professional Chambers Coordination and the Chamber of Turkish Engineers and Architects (TMMOB) organized a public gathering in front of the Cut Minaret Mosque [17]. They were demonstrating against any change in the form of the Cut Minaret. They argued that the Cut Minaret should remain in its cut form because it has been part of the collective memory of the people of Antalya. Several generations have grown up under the shades of its special form. It also has been part of the very famous touristic image of the city. On the contrary, AKP governing political party view was presented by its Antalya deputy, Mr. Atay Uslu, in favor of the completion of the minaret to revive the heritage of the ancestor. On the other hand, the religious authority represented by the 'Mufti' (a judge of Islamic affairs) of Antalya, Mr. Osman Artan, clarified that it is religiously preferred to complete the minaret to preserve the mosque's form and aid its function [18].

#### **AESTHETIC IMPACT ASSESSMENT OF THE CUT MINARET RESTORATION ON ITS PUBLIC APPRECIATION**

The above-extracted list of Aesthetic principles was used in a Cross-sectional Survey conducted at one time to provide a simple and quick snapshot of the public views on the Cut Minaret [19]. A Likert questionnaire was used with a scale from 1 as the lowest evaluation to 5 as the highest evaluation, Table 2. Convenience Non-Probability Sampling was used in the survey. Questionnaires were distributed to the general public who saw and felt the aesthetics around Cut Minaret. The population for the questionnaire was the general public of high school age and above, without any discrimination in age, gender, job, or education. 82 sheets were filled. With the percentage of error from 5% to 10%, a confidence level of 90%, and a proportion of 40%, this sample size represented a huge population [20].

#### **THE SURVEY RESULT**

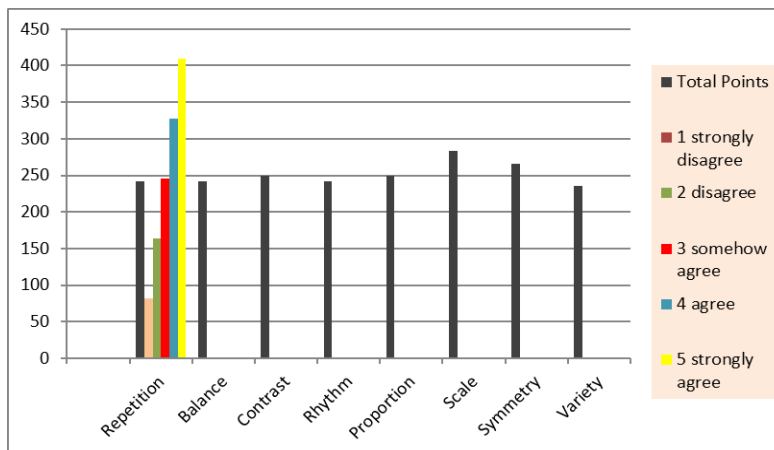
The results of the survey are shown in Table 2 and figure 20. The public showed a slightly positive attitude towards the general aesthetic values of the new form of the minaret, with five out of the eight principles getting scores above the "somehow agree" point. These principles are contrast, proportion, scale, symmetry, and variety. Repetition, balance, and rhythm are close to the "somehow agree" point. However, the results also show that the public had no clear preference for any principles.

**Table 1.** Aesthetics principles in architecture, Islamic architecture, and minaret architecture [Author]

Aesthetics principles in architecture			Aesthetics principles in Islamic architecture		The complete set of aesthetic principles	Common principles of Aesthetics Visual Indicators
Uzunoglu 2012	Vinchu et. al., 2017	Stankovic et. al., 2018	Foroozani, 1991	Abdulmir, 2010		
Unity	Unity	Unity		Unity	Unity	Unity
Focal point			Centrality		Focal point	Focal point
	Space				Space	
		Repetition	Repetition	Repetition	Repetition	Repetition
			Similarity	Similarity	Similarity	
Balance	Balance	Balance	Equilibrium	Balance	Balance	Balance
Contrast	Contrast	Contrast	Contrast	Contrast	Contrast	Contrast
Rhythm	Pattern	Rhythm	Rhythm		Rhythm	Rhythm
Proportion	Proportion	Proportion	Proportion		Proportion	Proportion
Scale			Scale		Scale	Scale
		Axis			Axis	
	Symmetry	Symmetry	Symmetry	Symmetry	Symmetry	Symmetry
Hierarchy		Hierarchy			Hierarchy	
Emphasis		Datum			Datum	
		Transformation			Transformation	
Variety			Variety		Variety	Variety
	Decoration				Decoration	
	Mass				Mass	
			Tranquility		Tranquility	
			Harmony		Harmony	
			Order		Order	
			Culmination		Culmination	
			Movement	Movement	Movement	
				Light and shade	Light and shade	
				Control	Control	
				Texture	Texture	
				Harmony	Harmony	
10	9	11	15	12	27	10

**Table 2.** Aesthetics Visual Indicators used in the Likert Scale Questionnaire for the Cut Minaret [Author]

Measures	LIKERT Scale					Aesthetics Visual Indicators	
	1 Strongly disagree	2 disagree	3 somehow agree	4 agree	5 Strongly agree	Indicator	Score
Maximum points of each measure	82	164	246	328	410	Repetition	242
						Balance	242
						Contrast	250
						Rhythm	242
						Proportion	250
						Scale	283
						Symmetry	266
						Variety	235



**Figure 20.** A chart of Aesthetics Visual Indicators used in the Likert Scale Questionnaire for the Cut Minaret [Author]

## CONCLUSION

Studies of Visual Impact Assessment and Public Preference Assessment of architectural conservation and restoration projects are important tools to understand the cultural trends of the public and their attitudes towards heritage and its aesthetics. The research showed that architectural heritage is deeply rooted in the culture of the Antalya people. The Cut Minaret could generate serious debate between several community parties about the impact of its restoration on the current generations who do not know its old complete form. It also revealed that none of the parties conducted a study for the Visual Impact Assessment of the restoration project. There was no evidence that there was any kind of public participation in the studies, preparations, or project realization. Public participation is a vital tool that could help to mediate the attitudes of the disputed parties. It could also raise public awareness of the importance of the project and the need to restore the old form of the minaret. The public showed a clear preference for the scale over all other visual indicators. It highlights the role of the height and size of the minaret as a distinguished landmark in the low-rise historical Kaleiçi. This point strongly supports the argument of Culture and Religious Affairs authorities. The restored spire and finial of the minaret add considerably to the height and volume of the minaret, enhancing its scale in the old town and enhancing its cultural urban views and historical image.

## RECOMMENDATIONS

Architectural conservation and restoration projects are vital for preserving the history, identity, and culture of the community but they need to be well studied and assessed. Many assessment frameworks have already been applied, like Environmental Impact Assessment (EIA) and Sustainability Impact Assessment (SIA). However, there is still a desperate need to apply the Visual Impact Assessment (VIA) and Public Preference Assessment (PPA). Government authorities and professional associations, in particular, should seriously consider these studies to raise public awareness of the importance of these projects.

## LIMITATIONS AND FUTURE RESEARCH

This study was limited in the scope of study to a few Visual Indicators. There is a need to develop a comprehensive list of such indicators to cover a wider range of aesthetical aspects of architecture and the built environment. The study was also limited in the scale where the study of the public appreciation of the complete build of the mosque is crucial. Also, there is a need to apply the survey to a wider population to get more accurate results. The development of special software that would compute the assessment of the visual indicators is also vital for more sophisticated and accurate procedures. The research also could not measure the aesthetic appreciation of all the details of the minaret, including its form elements. Future research is also needed to compare the aesthetic

appreciation of several minarets to find a more general description of the public's appreciation of tower aesthetics. The study of Aesthetics Visual Assessment of architectural and restoration projects in different places in Antalya and outside of it is also needed.

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## REFERENCES

- [1] A. Petersen, *Dictionary of Islamic Architecture*, London: Routledge, 1995.
- [2] E. Roose, *The Architectural Representation of Islam- Muslim-Commissioned Mosque Design in The Netherlands*, Amsterdam: Amsterdam University Press, 2009.
- [3] F. Nugrahini, "An overview of structural design and building materials in shell structure for the mosque and the future development", *Journal of Physics: Conference Series*. Volume 5951, 6453, Doi:10.1088/1742-6596/1517/1/012038.
- [4] H. Kasim, "The minarets of Bagdad- features of urban identity", *Iraqi Journal of architectural engineering*, vol. 3, no. 61, pp. 58–75, 2015.
- [5] A. Doğangün, Ö. Tuluk, R. Livaoğlu, and R. Acar, "Traditional Turkish minarets on the basis of architectural and engineering concepts", *Proceeding of 1<sup>st</sup> International Conference on Restoration of Heritage Masonry Structures*, vol. 68, p. 27, 2006.
- [6] R. Pekgökgöz, and G. Taş, "Dynamic analysis of RC high minarets with tuned mass damper", *Journal of the Faculty of Engineering and Architecture*, vol. 32, no. 1, pp. 265–282, 2017.
- [7] Y. Dere, H. Erdoğan, M. Başar, "Dynamic Comparison of Three Major Turkish Minarets in the History of Minaret Evolution", *Proceeding of the International Conference on Advances in Civil and Structural Engineering*, pp. 19-79, 2014. Doi: 10.15224/ 978-1-62348-006-4-106.
- [8] M. Ballance, "Cumanin Camii at Antalya: A Byzantine Church", *Papers of the British School at Rome*, vol. 23, pp. 99-114, 1955, doi:10.1017/S0068246200006644.
- [9] E. Zilivinskaya, "Cult monuments in the golden horde: origin, evolution, and tradition", *Golden horde review*, vol. 8, pp. 98-71, 2015.



- [10] P. Parzys, "From one polygon to another: A distinctive feature of some Ottoman minarets", *Nexus Network Journal*, vol. 57, pp. 471-486, 2011, DOI 10.1007/s00004-011-0076-2.
- [11] S. Bell, *Elements of Visual Design in the Landscape*, New York: Spon Press, 6449.
- [12] D. Stankovic, A. Kostic, V. Nikolic, and A. Cvetanovic, "Form in Architecture and Principles of Design", *Architecture. Construction. Education-Annual scientific-technical and production journal*, vol. 1, no. 11, pp. 57-63, Doi: 10.18503/2309-7434-2018-1(11)-57-63, 2018.
- [13] S. Uzunoglu, "Aesthetics and Architectural Education", *Procedia - Social and Behavioral Sciences*, vol. 95, pp. 34 - 98, 2012, doi: <https://doi.org/10.1016/j.sbspro.2012.08.124>.
- [13] G. N. Vinchu, N. Jirge, and A. Deshpande, "Application of Aesthetics in Architecture and Design" *International Journal of Engineering Research and Technology*, vol. 10, no. 1, pp. 183-186, 2017.
- [15] M. Foroozani, "Principles of Aesthetics in Islamic Architecture", *Periodica Polytechnica Sbr. Arch*, vol. 35, no. 3, pp. 189-200, 1991.
- [16] S. Abdulmir, "Aesthetic dimensions of minaret in Islamic architecture", *University of Babil Journal of Humanities*, vol. 18, no. 2, pp. 549-557, 2010.
- [17] A. Şube, "KALEİÇİ KESİK MİNARE BASIN AÇIKLAMASINDA YER ALDIK," Chamber of Turkish Engineers and Architects-TMMOB, 2019. [https://www.cmo.org.tr/genel/bizden\\_detay.php?kod=99943&tipi=67&sube=5](https://www.cmo.org.tr/genel/bizden_detay.php?kod=99943&tipi=67&sube=5) (accessed May 26, 2021).
- [18] I. Akin, "Antalya Müftüsü'nden 'Kesik Minare' fetvası: İhanettir, cami, minare, ezan karıştıktır," *Sözcü newspaper*, Jul. 27, 2019. Accessed: May 26, 2021. [Online]. Available: <https://www.sozcu.com.tr/2019/gundem/antalya-muftusunden-kesik-minare-fetvasi-ihanettir-cami-minare-ezan-karsitligidir-5252530/>
- [19] N. Mathers, N. Fox, and A. Hunn, *Surveys and Questionnaires*, UK: The NIHR RDS for the East Midlands/Yorkshire & the Humber, 2007.
- [20] J. Young, "Questionnaires and Surveys", in Z. Hua, Ed. *Research Methods in Intercultural Communication: A Practical Guide*, pp.165-180, Oxford: Wiley, 2016.